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FLINT & WALLING MFG. CO. KENDALLVILLE, IND. U.S.A.



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wind mills



No. 39.

PRICES SUBMITTED ON APPLICATION.

Flint & Walling Mfg. Co.

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SALUTATION

WE take pleasure in presenting this booklet to our patrons particularly our foreign friends, that they may become better acquainted with our line of STAR WINDMILLS and goods pertaining, and more clearly understand the present uses of STAR WINDMILLS and goods.

The degree of perfection we have attained in this line is the result of thirty years' experience and careful study for the requirements of the trade.

It is for the benefit of those who desire more light on this subject that we issue this booklet. The illustrations are precise reproductions of the goods, and in detail, so the construction may be readily understood.

TO OUR FOREIGN FRIENDS

We wish to state that we use every precaution in packing goods for export shipment, using hard wood and binding packages with iron to insure good condition on arrival at destination. We pay particular attention to the saving of space in assembling goods for packing, the object of which is well understood.

The pages following cover but a few of the goods manufactured by us. If your needs are not represented, make them known to us, and we will cheerfully assist you, if within our power.

If this falls into the hands of persons wanting goods in water supplies, send your order direct or through reputable export houses, and same will receive prompt and careful attention.

Very respectfully,

FLINT & WALLING MFG. CO.



FACTORY. KENDALLVILLE, INDIANA U.S.A.



FARMER'S PRIDE.

STAR MILL COMPLETE MADE IN ALL SIZES.

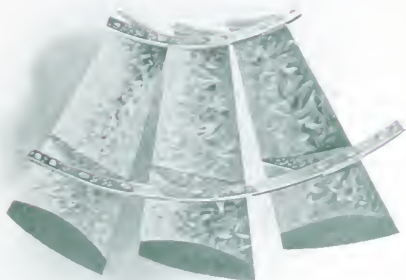


USING the wind for generating power by means of wind mills originated in the twelfth century with the French, who constructed a massive four armed wheel, on which sails were spread to catch the wind and revolve the wheel. Other countries followed this design for centuries, improving but slightly on the old, until American mills were put on the market, which marked great strides towards harnessing the wind for power use.

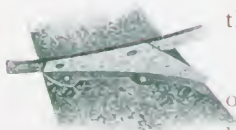
The American mill is smaller, will run in lighter wind, and develop more power.

The leading American windmill will be seen and described on the following pages.

The wheel is the most important factor entering into the construction of windmills. It develops the power of the mill. The wheel of the Star Mill is of heavy steel, so constructed as to make a strong and durable truss. The fans or sails are of the proper curvature and angle to develop the greatest force, and riveted to steel rims forming a segment of a circle.



The wheel consists of 4, 6, 8, or 10 of these segments according to size of mill.



Each fan or sail is attached to rim of wheel by means of a one-piece steel bracket, which is firmly riveted to both fan and rim.

These segments are connected together with arms or spokes, made of steel and braced as shown. These being bolted to hub of wheel, completes a perfect and strong wheel with which to resist the force of winds.

The entire steel work of the Star Mill is galvanized after it is completed, thus every joint, hole or cut edge is thoroughly protected from corrosion.



THE secret of the Star Mill's light running qualities is exposed by the accompanying illustrations. Our ball thrust bearing is of hardened polished steel balls revolving on hardened steel plates with plenty of good oil from our automatic feed oil cup.



THE full pressure of the wind is on the wheel, likewise on its hub, causing great friction against the main bearing of the mill. This thrust friction is reduced to a minimum by inserting our thrust bearing between the hub of the



wheel and the main bearing as shown. The wheel is well balanced and with these improvements runs like a bicycle.

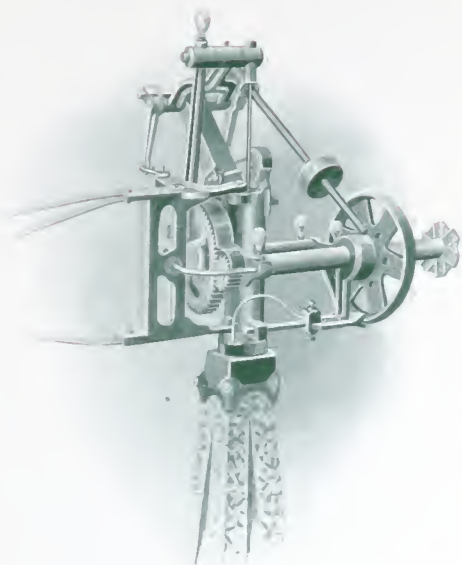
OUR ball bearing turn table is another reason for the Star Mill running when others are standing still, the slightest zephyr turning the mill windward without losing a stroke. With these and other qualities, the Star is ever ready for the slightest breeze; it will do the rest.





ENTERING into the construction of the Star Mill all the new features and all the old qualities are combined, and while they may have a familiar look, on closer inspection they will be found to have made great advance in every essential element.

The best of material is used throughout. The shafts are of cold-rolled, polished steel, running in long bearings of anti-friction metal. The connecting rod is babitted both ends, wrist pins are turned steel, links, hooks and brake bar are of forged iron, making a strong combination of mechanism. The bolts are galvanized and double nutted.



This cut represents the engine of mill when in gear, brake free, governor down, ready to run in light wind, and in severe wind to automatically throw itself out of gear.

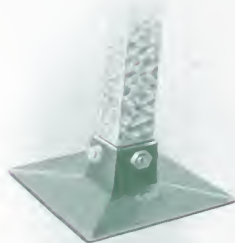
The cut below shows the position of working parts of mill when out of gear, brake tightly set, remaining so until wind subsides or pull-out wire is released, as the case may be.

Galvanized Steel Star Back Geared Mills are made in sizes 4, 6, 8, 10, 12, 14 and 16 foot wheels.

Galvanized Steel Star Direct Stroke Mills are made in sizes 8, 10, 12, 14 and 16 foot wheels.



THE STAR STEEL TOWERS are constructed of heavy angle steel of the structural grade, on scientific principles to resist the strongest winds. As the foundation of a building is important to its durability, so is the anchorage to the tower. We have a large cast plate bolted to a five-foot anchor post and plank bolted to plates. This, tamped firmly in ground, completes a safe and durable anchorage for towers.



FOUR POST TOWERS made in any heights divisible by 5, from 10 to 100 feet, with bands every 5 or 10 feet spaces, as desired.



OUR Platforms are of heavy lumber banded on the edge with steel and bolted firmly to the tower, making it perfectly safe for any load to be placed upon it.



OUR STEEL TOWERS are complete as can be made. A genuine steel ladder easy to climb is securely attached to tower from ground line to platform.

BRACE RODS are of round steel with nut on each end for adjusting rod to proper tension. By this means the tower can always be kept rigid, as the rods may always be tightened, unlike many others which can only be tightened to a limited degree.

BANDS are of angle steel and bolted direct to corner posts.

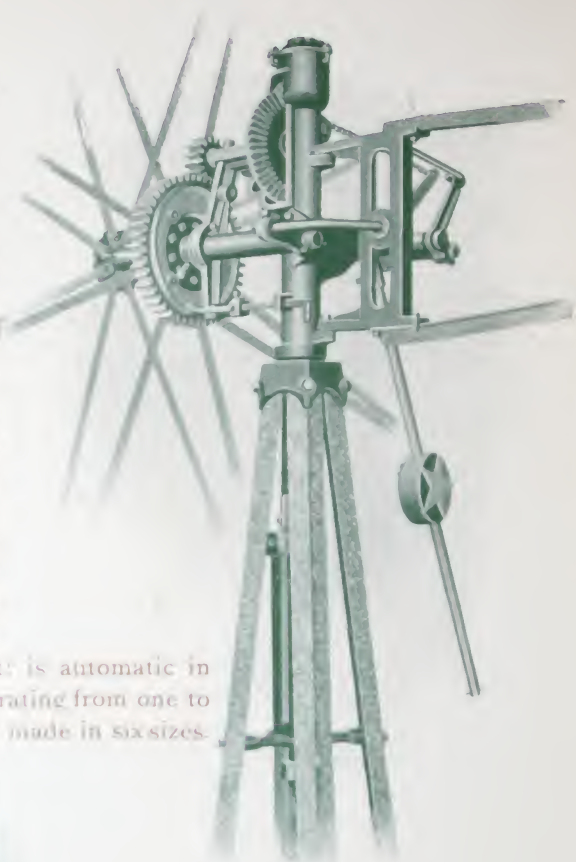
The spread of towers is one-fifth of the height.

THREE POST TOWERS are made in heights divisible by ten, from 10 to 100 feet, with bands 5 or 10 feet, spaces as desired.



THE REEFING GEAR is attached to all towers for pulling mill out of gear. Its simplicity and easy working is of great help in handling the mill.

STEEL STAR POWER MILL for driving feed cutters, corn shellers, feed grinders, buzz saws, pumps, churns, washing machines, shredders, grind stones, etc. The construction of the wheel is same as for pumping. The mechanism differs, inasmuch as the motion of the vertical shaft is revolving instead of reciprocating. It is strongly made, has ball bearing thrust, ball bearing turn-table, and ball bearing for vertical shaft; is automatic in every respect and generating from one to four horse power, and is made in six sizes.



We have patterns for any fixtures necessary to complete any kind of power mill plant, for either steel tower, or flat side or corner of single mast.

The accompanying cut represents jack for transmitting to horizontal line shaft, with vertical shaft continuing below for feed grinder.

Where the well is a distance from the mill in any direction, there are devices by which the pump can be driven. We have the necessary fixtures.

In sending your inquiry, make rough sketch of your wants.





MODEL STEEL STAR POWER MILL PLANT.

MILL CAN BE ERECTED ON ANY KIND OR PART OF A BARN, ON FLAT SIDE OR CORNER OF SINGLE TIMBER, OR ON STEEL TOWER ON TOP OF BUILDINGS, OR INDEPENDENT OF SURROUNDINGS.

SEND US YOUR WANTS. WE WILL PLAN YOUR NEEDS.



SUBURBAN OUTFIT.

WHEREVER IN THE CITY, SUBURBS OR DISTANT COUNTRY, HAVE YOUR OWN
INDEPENDENT WATER WORKS WITH ITS CONVENIENCES.
ALWAYS READY, WINTER OR SUMMER.

TANKS. The illustration represents a tower tank of wood, which is made from 20 to 100 barrel capacity and elevated in towers from 20 to 40 feet above ground.

We make a full line of tanks in White Pine, Cypress or Washington Fir from 5 to 3500 barrels capacity.



THE TOWER TANKS are also made of galvanized steel. Tanks are knocked down and crated for shipment.

The tower tanks are furnished with crowning covers as shown, and if desired they can be made frost proof.



STOCK TANKS made of White Pine, Louisiana Cypress, Washington Fir or Galvanized Steel, any size or purpose, round, square, half-round or oblong.



FIG. 451.

PITCHER Spout Pumps are more commonly used in kitchens and bath rooms.

Fig. 451 represents the iron pump.

Fig. 561 represents the brass cylinder pump.



FIG. 561.

These pumps are substantially made, accurately bored and polished, have revolving top so handle can be worked from any point. The check valve can be tripped with handle to prevent pump from freezing in winter. Made in four sizes.

FIG. 564 represents our new house force pump, with brass cylinder. It has faucet spout and large air chamber for water cushion. It is made in three sizes.

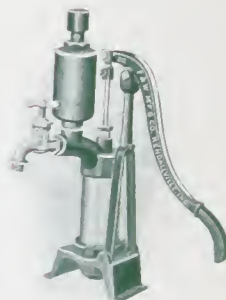


FIG. 564.



FIG. 466.

FIG. 466 represents our improved syphon force pump for windmill connection. This pump has brass cylinder, outer cylinder is of iron. The water enters top of outer cylinder above valves, thus keeping the valves submerged and pump always primed and ready for work. It is simple in construction, valves easily accessible, and no complicated working parts to get out of order. The pump is designed for heavy duty and will stand great pressure. It is made in six sizes.

FIG. 510 represents our Windmill Force Pump Standard with cock spout. The pump can also be furnished with plain spout, as shown in cut, in which case it is called Fig. 508.

This pump is of heavy design, brass stuffing box, heavy solid polished plunger rod, long handle for forcing water through hose, spout fitted with hose coupling, has a back outlet for conveying water through system. This pump is made in four sizes.

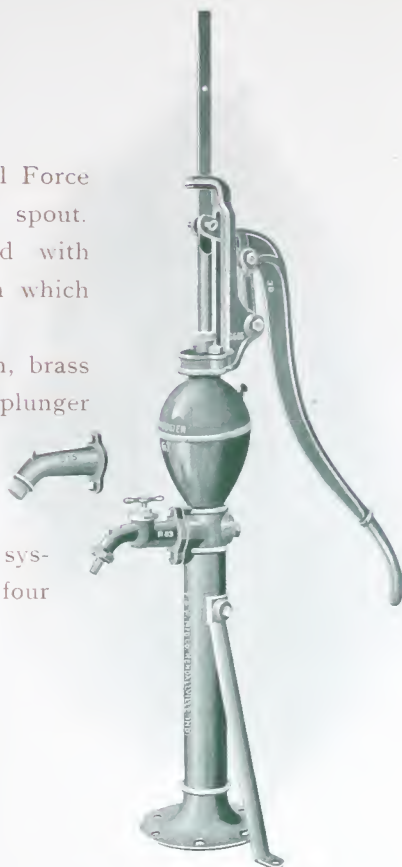


FIG. 510.

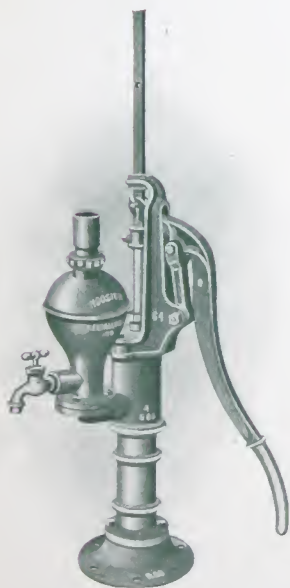


FIG. 490.

FIG. 490 represents our improved force pump for hand or windmill use. It has all the necessary features to complete a perfect force pump. It has faucet spout and force outlet, large air chamber, brass plunger rods, made with iron or brass cylinder in five sizes.

FIG. 586 represents our latest underground three-way double acting force pump for hand or windmill use. It is a perfect and easy working pump, throwing a large steady stream. The three-way cock is manipulated from platform and is a positive shut-off. This pump is furnished with hose coupling, and is made with 4-foot set length, making it anti-freezing. Made in all sizes.

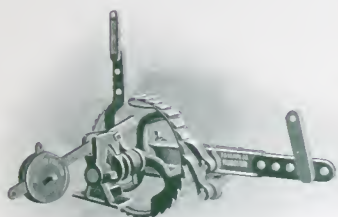


FIG. 586.

FIG. 472 represents our underground, three-way force pump and windmill regulator combined. This pump fills a long-felt want among pump users. Besides the features of a first-class force pump, it has the automatic regulating device, a brass lined cylinder with cross-heads and guides, which operates with chain and pulley. As the float operates the valve, water is supplied to this regulating cylinder, whose piston, forced up by the water, pulls the mill out of gear. When water is used from the supply tank, the float operates the valve, admitting more water, which relieves water from the regulator cylinder, thus allowing the piston to drop and mill to resume its work.



FIG. 472.



THIS CUT represents our Hoosier Windmill Regulator, which is the most successful one on the market. It is simple in operation, positive in action, perfect in controlling the mill, strong and durable. It saves the pump and mill from unnecessary work and wasting of water with mud puddles about stock tanks. It regulates the mill as well as a man and only needs oil occasionally.



CYLINDERS.—We make all kinds and sizes of cylinders known to the water supply line.

Brass Body Cylinders and All Brass Cylinders, made with outside and inside caps.

A full line of Working Barrels for deep wells, with removable valves.

All kinds of cylinders made with single or double leather plungers. Only the best of material and care enter into the construction of our cylinders.



In connection with the cylinder business we wish to add that we tan all our own leather which is made into valves of our make—one of the few cold oak bark tanneries left in the United States.





IRRIGATION.—The Star Mills are used extensively for irrigation in most countries, and very successfully. If a supply of water can be procured this system is very economical and the plant can be installed for a small sum, the wind costing nothing, the Star outfit a little more and the balance can be done by home talent.

A model system is installed as shown above, by pumping into an artificial pond and irrigating from it. This gives the crop an earth warm water.

Write us relative to our irrigating mills and pumps, stating amount of land to be irrigated, the crop and source of water supply.



THE accompanying cut represents a Star Mill and tower as it stood a tornado in the West. As will be seen, the surrounding buildings and trees were swept and torn into a shapeless mass, while the Star is in perfect condition.



CEMETERY OUTFIT.



RAILWAY OUTFIT.



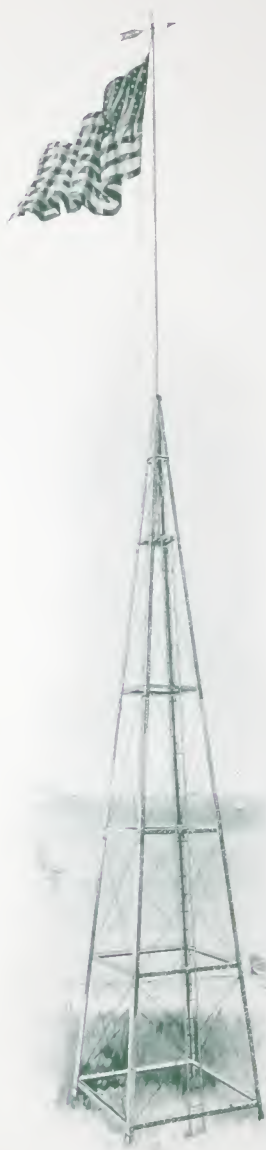
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